

A PLAN FOR RECORDING IN A CONDENSED FORM
THE LIFE-HISTORY NOTES OF BIRDS.

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IN THE study of ornithology there is perhaps no field so neglected as that of careful and systematic observing and note-taking on the life-histories of birds. With the average collector the tendency is to make collections of skins, nests, and eggs with records of dates, localities, and numbers found, without pausing to record notes of greater importance. While the writer recognizes the necessity of making collections of skins, nests, and eggs, he realizes at the same time that such collections, unless supplemented by complete and carefully prepared notes, are emphatically inadequate in the determination of life-histories — the ultimate purpose of ornithology.

There are numerous factors lending their influence in favor of collecting, and against the work here referred to, among the most prominent being: (1) the inherent desire to collect per se; (2) the greater interestingness of collecting; (3) the tediousness of waiting and watching in note-taking; (4) the uncertainty and slowness of results in the latter; (5) the non-attractive clerical labor thereafter involved. To minimize this clerical labor is the purpose of this article.

In entering upon a discussion of this subject it is necessary in the outset to determine what character of notes should be recorded. By common consent, we take it, the following will be included: general locality, temperature, condition of the weather, direction and force of the wind, amount of rainfall or snowfall, advance of vegetation, new insects abroad, environments, number of birds seen or heard, number of indications of mating, number of indications of nest-building, number of nests found containing eggs, number of nests found containing nestlings, number of young seen on the wing, condition of plumage, stage of moult, food and food habits. To these the following should be added: time out, exact locality, prevailing wind of locality, species searched for but not found, number of birds seen in flocks, number of birds seen in migration flight. The direction and force of the prevailing wind

are unquestionably more important factors in the distribution of birds over certain areas than the direction and force of the wind during any one day.

It has been suggested that one should record the specialty that he is engaged in during the day under consideration. Although we recognize the fact that one will not make as many observations on bird habits while collecting birds, nests, or eggs, and that allowance might be made if one did not observe certain expected birds while engaged in such other pursuits, yet, a personal element is hereby introduced that should be avoided. This personal element being variable in different persons, and variable in the same person, depending on his physical and mental condition on the day specified, renders such record more or less invaluable. After all, it is the positive and not the negative records that are most important. If an observation be made and recorded, in respect to our fellow scientist we assume the record to be accurate. Should the same person, whoever he be, fail to make an expected observation, we could not rightly conclude that such observation was impossible.

It has also been suggested that a record be kept of the method of travel on expeditions of observation. Aside from having the conviction that such records would lack value on account of the introduction of the personal element just referred to, we are reminded that any unimportant detail included in our plan will tend to make it cumbersome and thus defeat its object.

In order that the reader may the more readily comprehend the subject-matter that we recommend to be recorded, it is outlined below with a convenient abbreviation placed after each subdivision. Care has been taken in the selection of subdivision names that none of those closely associated would begin with the same letter, a condition that would render their natural abbreviations confusing.

OUTLINE OF HEADLINE NOTES.

1. General Locality (*e. g.*, Platte River, Denver, Colo.).
2. Time Out (*e. g.*, 9:30-5:15).
3. Average Temperature during the Day (*e. g.*, 50°).
4. Weather { Sunny (S).
Fair (F).
Cloudy (C).

5. Prevailing Wind of Locality { Direction (*e. g.*, N. E.).
Force { Low (L.).
Moderate (M.).
High (H.)
6. Wind of the Day (outlined as above).
- Rainfall { Light (R. L., or S. L.).
7. or { Moderate (R. M., or S. M.).
Snowfall { Heavy (R. H., or S. H.).
8. Advance of Vegetation { New Leaf-buds Out (B.....).
New Leaves Out (L.....).
New Flowers Out (F.....).
New Seeds Ripe (S.....).
9. New Insects Abroad.
10. Remarks.

OUTLINE OF SECTIONAL NOTES.

1. Exact Locality by Range, Township, Section, and Quarter (*e. g.*, 67 W., 1 N., 6, 3).
2. Environments.
3. Number of Birds Seen or Heard { Exact { ♂ (*e. g.*, 6♂).
♀ (*e. g.*, 5♀).
Approximate { ♂ (*e. g.*, .50♂).
♀ (*e. g.*, .25♀).
4. Species Searched For but Not Found (*e. g.*, 0).
5. Number of Indications of Mating (*e. g.*, 12 M.).
6. Nests and Young { Number of Indications of Nest-building (*e. g.*, 4 B.).
Number of Nests with Eggs (*e. g.*, 3 E.).
Number of Nests with Nestlings (*e. g.*, 5 N.).
Number of Young on the Wing (*e. g.*, 15 W.).
7. Indications of Migration { Number in Flocks { Exact { ♂ (*e. g.*, 46♂ F.).
♀ (*e. g.*, 30♀ F.).
Approximate { ♂ (*e. g.*, .50♂ F.).
♀ (*e. g.*, .50♀ F.).
Number in Migration Flight { Exact { ♂ (*e. g.*, 46♂ M.).
♀ (*e. g.*, 30♀ M.).
Approximate { ♂ (*e. g.*, .50♂ M.).
♀ (*e. g.*, .50♀ M.). or (*e. g.*, .100 F. M.).
8. Plumage.
9. Moult.
10. Food { Of Young { In Nest (*e. g.*, F. Y. N.).
On Wing (*e. g.*, F. Y. W.).
Of Adults (*e. g.*, F. A.).
11. Reference to Photograph taken of this Species on this Day.
12. Reference to Drawing made of this Species on this Day.
13. Reference to Additional Notes taken on this Species on this Day.
14. Reference to Résumé of Notes taken on this Species.

The heading 'Number of Indications of Mating' might receive numerous subdivisions like the following: singing, calling, cooing, drumming, strutting, scraping, etc.; but it is deemed inadvisable to burden the sectional notes with these. All notes in regard to the method of wooing should be recorded on the back of the form, or in a book containing more extended field notes, to which reference may be made in the manner hereinafter suggested.

The form herein given and recommended for these records is somewhat similar to that proposed by Chapman, though it is much more complete. For convenience in discussion we will divide the form into three parts: headline spaces, marginal divisions, sections. The headline spaces are respectively 5 mm., 7 mm., and 14 mm. wide. The marginal divisions are 25 mm. long by 24 mm. wide. The sections are 24 mm. long by 20 mm. wide, each being ruled horizontally with fine lines 2 mm. apart, the sixth, seventh, and eighth of the spaces thus made being divided vertically into three parts.

The first vertical column of the headline spaces should contain, in the order named, the following: year, general locality, time out, weather and temperature, prevailing wind, wind of the day, rainfall or snowfall, advance of vegetation, new insects abroad, remarks. The spaces to the right of the year should contain the days of the month, the month itself being written above the upper headline. The remaining headline spaces should contain notes on the heading found in their respective marginal spaces, such notes, if desirable, being written in the abbreviated form suggested in the outline.

In the marginal divisions should be placed the names of the species in the order observed. In the sections should be placed the notes on such of these species as are observed during the day indicated at the top of the vertical row. Each section will, therefore, contain as many of those notes found in the 'Outline of Sectional Notes' as are taken on any one species. The divisions of each section are reserved for the following notes: the first, for the exact locality; the second and third, for the environments; the fourth, for the plumage; the fifth, for the moult; the ninth and tenth, for the food of the young; the eleventh and twelfth, for the food of the adults. The area included in the middle spaces of divisions six, seven, and eight is reserved for the 'Number of

FORM OF SHEETS FOR RECORDING LIFE HISTORY NOTES OF BIRDS
($\frac{3}{8}$ th Nat. Size).

Birds Seen or Heard,' or 'Species Searched For but Not Found.' It will be observed upon close comparison of the subdivisions included under the three captions 'Number of Indications of Mating,' 'Nests and Young,' and 'Indications of Migration,' that notes on no more than five of these subdivisions are probable on one species during one day. For these notes the first spaces of divisions six, seven, and eight, and the third spaces of divisions six and seven are reserved. In the remaining division space—the third space of the eighth division—may be placed the page references to photographs, drawings, additional notes, and résumé. Should this space be needed for another record, the page references to photographs, drawings, additional notes, and résumé may be placed respectively in the upper left, upper right, lower left, and lower right corners of the section. If desirable, any note may be given more prominence by writing it in differently colored ink. In arranging the notes for the above sections we have endeavored to congest them into as small a space as possible, but have found it impractical to confine them to sections smaller than those designated.

In looking down the vertical columns of this form one may note at a glance all the species observed during each day. In looking across the horizontal columns one may note the different days upon which the same species was observed, the different localities that it frequented, the various environments in which it was found, etc.

Each sheet may be made to cover as many spaces in width or length as desirable in each individual case. However large it may be made, it is improbable that the marginal divisions of one sheet will contain all the species observed during the days represented. Other sheets must, therefore, be added of a size equal to the body of this sheet (*i. e.*, with the headline area omitted) and ruled in the same way. These sheets should be made up in tablet form and neatly perforated at the points indicated. Covers should be made a trifle larger than the form, both of which should be hinged with leather or canvas and perforated in the same manner as the sheets, each perforation being provided with an eyelet. The covers and sheets are laced together with an ordinary shoe-lace, thus making it possible to remove the sheets at any time and arrange them

beside each other for study. A key to all abbreviations used is very essential, not only for the observer himself, but especially for those who may in future years have access to his records. A convenient place to put this key is on the inside of the front cover. After enough sheets are completed an index should be made and all laced into one volume.

GENERAL NOTES.

✓ Occurrence of the Arctic Tern (*Sterna paradisæa*) in the Hawaiian Islands.—A weary and wayworn individual of this species was discovered on the beach at Hilo, Island of Hawaii, May 9, 1891. The bird boarded a schooner when four days off port, being evidently much exhausted, but disappeared three days afterwards, having evidently sighted land. It was next seen on the beach by some boys, but was hardly able to fly, and was captured by hand after a short chase. It came into the possession of Mr. R. T. Guardé, but died the next day from hunger and exhaustion. Mr. Guardé had the bird mounted, and very generously presented it to the writer. The bird was assuming the full nuptial dress, and presumably was on its way to Alaskan breeding grounds when it was lost or blown to sea. After a brave struggle with fate it reached distant Hawaii only to fall a victim to the consequences of its protracted flight.

So far as the writer is aware this is the first American tern to be reported from the Hawaiian Islands, though American gulls are not of very rare occurrence.—H. W. HENSHAW, *Hilo, Hawaii.*

Note on the Name of Audubon's Shearwater.—Lesson in the 'Revue Zoologique' for April, 1839, p. 102, describes a shearwater as follows: "*Puffinus* [sic] *Lherminieri*, Less.—Corpore supra nigro, infra albo, rostro et pedibus nigro.—Long. ; 12 poll.—Hab. ad ripas Antillarum." Finsch, in the P. Z. S. 1872, p. 111, renames this species *Puffinus auduboni*, being led astray by believing Bonaparte's citation of Lesson's name referred to the 'Traité,' in which work it is not to be found. In view of the above facts this species should stand in the Check-List as *Puffinus lherminieri* Lesson—J. H. RILEY, *U. S. National Museum, Washington, D. C.*

European Widgeon (*Mareca penelope*) on Long Island, N. Y.—It gives me great pleasure to record the capture of an unusually fine adult male English Widgeon at Bostwicks Pond, Gardiners Island, Suffolk County,